## ABSTRACT

A resistive heater comprising a doped ceramic heating element embedded either partially or completely within a matrix of undoped ceramic material. The ceramic may be silicon carbide, and the dopant may be nitrogen. Many of the advantages of the present heater stem from the fact that the materials comprising the heating elements and the matrix material surrounding those elements have substantially the same coefficient of thermal expansion. In one embodiment, the heater is a monolithic plate that is compact, strong, robust, and low in thermal mass, allowing it to respond quickly to power input variations. The resistive heater may be used in many of the reactors and processing chambers used to fabricate integrated circuits, such as those that deposit epitaxial films, and carry out rapid thermal processing.